spinal origin may be compromised by hemorrhage, accidental wounds, and various irritations—all of which may cause the symptoms of angina pectoris.

4. Angina pectoris and asthma are intimately related: the *former* being an affection more especially of the *sensitive* filaments of the par vagum; and the *latter* an affection of its *motor* filaments. Both are generally more or less combined in the same case.

5. Angina pectoris is a disease not necessarily fatal, especially in young persons, if accurately diagnosticated, and properly treated.

6. In addition to the remedies of the books, special attention should be given to the inhalation of oxygen, and to the use of electricity.

7. In cases of angina pectoris, attention should be directed to the examination of the par vagum, from its origin to its terminations, which, doubtless, on careful examination, will exhibit lesions sufficient to account for a fatal result.

ART. III.—*On Hemorrhage from the Umbilicus, in New-born Children; with Cases.* By HENRY I. BOWDITCH, one of the Physicians of Massachusetts General Hospital. (Read before the Boston Society for Observation in Medicine and the Collateral Sciences, July 2d, 1849.)

MRS. Y. Z., a stout, healthy young woman, living in Boston, in easy circumstances, and who had gone through her pregnancy without any peculiar symptoms, was confined with her first child Aug. 17th, 1838. Labour natural, and placenta removed without difficulty. The child was a female, and seemed perfectly well formed, and for several days after birth appeared quite healthy. The umbilical cord fell off on the *third* day; and from that time until the *fourteenth*, when I was consulted, the child continued to thrive, and to be in every respect normal, except that there was a slight oozing occasionally from the umbilicus, with the formation of a small coagulum. On the morning of the *fourteenth* day (Sept. 1st), I was summoned, as the hemorrhage had been more manifest. By compression, the flowing was checked, and none occurred from 4 P. M. that day, until 4 A. M. of the *fifteenth* day. It then commenced anew, and I was called at 8 A. M. On examination of the umbilicus, it looked healthy. There was no distinct opening whence the blood issued; but, from the corrugated centre of the umbilical depression, there was a constant, slight oozing of thin, arterial-looking blood. A compress of lint restrained it during the forenoon, and, subsequently, spunk was superadded. But the movements of the child displacing the bandage, the hemorrhage increased. A dossil of lint, sustained by the finger of an attendant, effectually arrested the flow, until 7 P. M., when I perceived that the lint was becoming gradually soaked with blood and raised from its bed, and that a still greater disposition to flow was manifested. Slight astringents, as sulphate of copper and of zinc, were likewise used during the forenoon.

Directions were given to have the patient kept constantly in the nurse's lap, and the finger of an assistant to be applied all the time. At 4 A. M. of the *sixteenth* day, the hemorrhage increasing in spite of any amount of astringent

application, I used very freely the solid nitrate of silver, without the least effect, except apparently to augment the hemorrhage. Early this morning, a consultation was held with Dr. Hayward; and it was decided to pass a double ligature through the umbilicus and surrounding integuments, and enclose the whole. By this means, the hemorrhage was arrested three or four hours only, when oozing again began, and an ineffectual attempt was made to apply another ligature. Another operation was needed. It was performed at 2 P. M., by means of two needles at right angles to each other, passed through the skin, to which ligatures were applied, as in hare lip. A circle of the integuments three-quarters of an inch in diameter was thus enclosed.

Entire success seemed to be the result. No hemorrhage followed. Up to this period, the child continued strong and well in its general habit of body. It had become somewhat pale, but by no means bloodless, about its lips. It nursed well, and the dejections were natural. Its limbs and abdomen were in perpetual motion.

Sept. 4th. (Seventeenth day since birth, and third of hemorrhage.) Very comfortable; aspect better; lips of rosy hue. Every circumstance seems favourable, except that the compresses over umbilicus are slightly stained with blood, and a little blood appears in the dejections. Patient lies quietly, and nurses strongly.

Abdomen to be watched constantly; patient to continue in lap of attendant.

Sept. 5th. (Eighteenth day from birth, fourth of hemorrhage.) Restless three hours during the night; compresses more bloody; slight oozing from under them. Abdomen distended; dej. rather greenish. Patient appears occasionally to have slight colics, but lies quiet most of the time. Inside of mouth red; nowhere is blood seen oozing, but sugar teat used by patient is stained with it. Ol. ricini $3\frac{2}{3}$; paregoric three drops after dej., and to be repeated if needed.

Sept. 6th. (Nineteenth day since birth, fifth of hemorrhage.) Nursed well during night; four dej. bloody during night, one of them clotted, but generally they were thin and rather copious. Skin paler. On inside of first joint of right thumb is a slight ecchymosis. During this day, several bloody dej. took place, and from eighteen to twenty drops of paregoric were taken, under the influence of which the patient lay quiet. Constant oozing took place from umbilicus, which was covered with a mass of clotted blood and linen cloths. At 10 P. M., the pulse was slower, compressible under the slightest effort.

Sept. 7th. (Twentieth from birth, sixth of hemorrhage.) Face more bloodless, sallow; bleeding still continues; dej. still bloody. Occasional paroxysms, as of colic; pulse 98. At 1 P. M., death took place, the paroxysms above named having occurred several times. No autopsy was made.

In April, 1840, and September, 1843, the same lady was confined with healthy boys, who are now alive and well, without tendency to hemorrhage.

But Jan. 30th, 1845, she had another child (a male), who died of bleeding from umbilicus as the first one had died. The details of this case are as follows: The patient had been better during this pregnancy than during the previous ones. About the period of the third month, she had some hemorrhagic show, and labour pains, which were relieved; and she completed her full term. Labour began early in the evening of January 30th, 1845. At 10 P. M., I saw her, and found she had regular pains. Mouth of womb dilated, and bag of waters protruding, head presenting. In an hour, I left her, the birth having been completed, and the placenta having come away, without any special trouble.

No unusual hemorrhage then, or subsequently, from mother, and she con-

tinued well, except that she suffered with after-pains for two or three days. The milk came freely about the third day.

The child was plump and hearty, and rather above the medium size. It appeared well for several days, except that about the fifth it suffered somewhat, apparently from colics. However, it nursed and slept well. The bowels were never very freely opened, but discharged whitish, almost clay-coloured dejections, never meconium or anything yellow. The urine, on the contrary, was at times of a deep orange colour, as if strongly impregnated with bile. Slight icterus existed for a few days, but not more than is very commonly seen in children who are apparently healthy. The cord was smaller than usual, and caused no trouble at time of labour. It separated on the fifth day, and the umbilicus looked healthy. It continued to discharge a little purulent, and occasionally a little bloody fluid, until 8th, and from that time until 4 P. M. of the 10th, no stain was perceived on the compress.

At that time, I was called, as a slight oozing of blood had been perceived. I examined the interior of the umbilical aperture, and could perceive a slight spongy appearance, but nothing otherwise peculiar, and from this point the blood oozed as it often exudes from the gums. On the morning of this (10th) day, the nurse, while washing the child, perceived a small "black and blue" spot just at the edge of the left scapula, about half an inch in diameter, and hard, as from extravasation, under it. I prescribed gum Arabic and a dossil of lint to the umbilicus, and very little hemorrhage occurred during the night.

Feb. 11*th.* (Eleventh day of life.) Consultation with Dr. James Jackson; we filled the cavity of umbilicus with tannin, and ordered a piece of spunk to be kept constantly pressed upon it. Soon after this application, the blood flowed in a small stream over the abdomen.

This free hemorrhage, occasionally slightly restrained by compression, continued through the day and night, so that several compresses, of four and eight thicknesses of linen, were drenched. Two more spots of extravasation, similar to that above spoken of, appeared this day on the right elbow. When I saw them, they, with the first one, had increased somewhat in size; but they were not very manifest even then. By advice of Dr. Jackson, I gave calomel, one grain in two doses, to be followed by ℥i ol. ricin. I also prescribed sulphate of soda in grain doses every hour; and a new nurse was procured. None of these means restrained the bleeding; and, at 9 A. M., Feb. 12th (twelfth day of life, about forty-eight hours from commencement of hemorrhage), Dr. Hayward saw the child. At that time, it had much strength, though it was paler, and of a somewhat yellowish-livid colour. There had been two dejections of the same character, and, perhaps, a little greenish. In one, there had been a streak of blood. Actual cautery, by means of a large knitting-needle, was performed. The interior of the umbilical tube was thoroughly burned, after it had been pulled up and opened as much as possible, so as to bring the parts into full view. The patient suffered very little from the operation; but a mixture of laudanum, ℥i to water ℥i, was directed as a local application, and paregoric, five drops, to be given internally, if the pain was severe. A slight oozing of blood began immediately after the cauterization. This continued very free, and augmented during the day, though less than before the operation. No coagula, or tendency to coagulate, was shown. At 7 P. M., child still strong, kicking, &c., with vigour; pulse quite rapid, tolerably full; redness of lips and integuments, and generally patient; lies quiet under influence of opiate; some thirst; dej. as before. Prognosis in consultation with Dr. Jackson, Hayward and myself. Inevitable death. I was in favour of trying transfusion, and arrangements were made for that pur-

pose; but, on further consultation with the surgeon, it was deemed wiser not to try it. Feb. 13 (thirteenth of life, third of hemorrhage). Bleeding very free during the night previous; child inclined to sleep; in no suffering, but paler; pulse one hundred and fifty. About 10 A. M. there was a momentary partial cessation of the hemorrhage, and one dejection, slightly yellow, occurred; urine still deeply tinged. At 12, bleeding anew, and the patient died at 7½ A. M. of Feb. 14, just four days after the first ecchymosed spot appeared.

Autopsy twenty-six hours afterwards.—General sallowness of the surface, except the hands, which were pale, almost white, and nails livid; right elbow very livid and swollen, evidently with extravasated blood; similar aspect of left scapula. Abdomen contracted; umbilicus not remarkable. Its edges were a little moistened, the eschar adhering only at one or two points. No evident opening of any blood-vessel; muscles very pale, and little adipose matter.

Respiratory system.—Lungs exceedingly pale, without adhesions; posterior lobes somewhat reddened; a small spot of extravasated blood under the pleura covering the left. Both crepitated and appeared healthy, as did the bronchial glands. Pleuræ costales healthy.

The *thymus gland* projected downward over the heart; it was white, seemed healthy, and contained no milky fluid.

Circulatory system.—Pericardium contained about ʒi of yellow fluid. It was healthy.

Heart medium size; auricles shrunken and containing no blood, only a little being pressed up from vena cava ascendens. No coagula. Valves and membranes, carefully examined, perfectly normal. Aorta and pulmonary artery collapsed. Hypogastric arteries were somewhat thickened, hardened, and purplish, for an inch from umbilicus, but no air could be blown through them or the umbilical vein, and their interiors seemed healthy. No coagula in either.

Digestive system.—*Stomach* small, and contained an adhesive white mucus. Its mucous membrane, with that of the whole track of intestinal canal, was pale, smooth, and healthy. No extravasation; no blood in contents, which last were small in quantity; slightly yellow near stomach; pale, white, below. *Large intestines* contracted; contents, only a little undigested food. *Mesenteric glands* small and normal. *Liver* quite large, filling epigastrium, and extending down to umbilicus; it was of a yellowish colour externally, quite flaccid in consistence, and, on incision, was found to be wholly altered in structure. None of the red parts were perceptible, and the cut surface looked very like the interior of the colon, when covered with a soft yellow feces. By the slightest touch of the scalpel, I could raise a quantity of similar matter. It adhered to and stained a cloth, like feces. *Gall bladder* small, contracted, and contained no bile. Its interior was white and smooth. The ducts were pervious, and contained a little yellow matter.

Spleen entirely normal in size and consistence, and red as usual. *Pancreas* healthy; so likewise were the renal capsules. *Both kidneys* of usual size, and internally looked well, except that all the mammillary processes were stained with a kind of pigment running in direction of the fibres; at first sight, these looked like minute granules, but they were not gritty; most distinct towards the terminations of the processes. This appearance is frequently seen in the kidneys of very young children; it was probably urate of ammonia. Urine in pelves turbid with the same, making a sort of brickdust infusion. *Ureters* distended and thin. *Bladder* of medium size, and containing some urine; appeared well.

Résumé.—In these cases, both children died of hemorrhage from the navel (on the twentieth and fourteenth days after birth). They were of both sexes; while males, according to authors upon the hemorrhagic tendency, are more liable than females. In both cases, the cord came off quite well, and without external injury; one on the 3d, the other on the 5th day after the hemorrhage commenced. In both, the parts seemed entirely cured, and presented no discharge for several days before the fatal oozing took place. In both, all local applications seemed, in a very short time, to excite rather than to check the disease. In both, very violent surgical operations were resorted to without the least benefit. Death took place in one on the 3d, in the other on the 6th day after attack. One had white dej. from birth; both had purpuric extravasations and bloody dej. at last. At the autopsy of one, disease of liver and non-coagulated blood were found; no opening or apparent disease about the navel or vessels leading thereto was found.

Although these two cases have occurred in my own practice, I regard this as a very rare disease, and my reasons are as follows:—

On consulting several works on the General Practice of Medicine, which I have been able readily to procure, I find no mention made of it in the following: viz., Cyclopædia and Library of Practical Medicine; Good's, Watson's, Copland's, and Wood's Practice of Physic. 2d. In the works on Midwifery, it is ignored by Velpeau, Maygrier, Cazeau, Levret, Gouch, Collins, Murphy, Ramsbotham, Burns, Tucker, Dewees, and Meigs. On the contrary, Chailly, Hutin, and Baudelocque speak of it as of trivial moment, and do not even hint at its occasional fatality. 3d. In those works devoted to diseases of children, Bouchut, Rilliet and Barthez, Valleix, Stewart, and Condie do not mention the fact. Evanson and Maunsell allude to it as occurring from insufficient ligature of the cord, which was evidently not our case. Underwood alone makes two classes. In one, after the cord has come off, a fungus arises, which sometimes bleeds for months. In the other, there is a bad condition of the system, and bleeding occurs where the umbilicus has been apparently well healed. In neither does he regard it necessary to resort to very violent remedies.

From this want of data in those works devoted to General Practice, Midwifery, and Diseases of Children, it is evident that the profession at large has paid but little attention to this grave affection. I shall, in a brief manner, allude to similar cases observed here, and those found recorded in Medical Journals to which I have had access. I have examined all the *British and Foreign Medical Reviews*, the first fifteen volumes of *American Medical Journal*, *Medical Magazine*, and three first volumes of *Medical Examiner*, and all the journals recently received by this society; but in none can I find any record of cases exactly similar, although there are some cases of hemorrhagic diathesis in adults to which our cases are undoubtedly allied.

Dr. West, in his able Lectures on Diseases of Children, originally published in *London Medical Gazette*, alludes to three cases of fatal icterus of children,

published by Dr. A. B. Campbell in the *Northern Journal of Med.* for August, 1844. To this paper I have been unable to procure access. I allude to it now, because Dr. West speaks of fatal hemorrhage from the umbilicus a fortnight after birth as being liable to take place in these cases, and because in one of ours certainly, and in some of Dr. Homans', to which I shall allude hereafter, icterus existed. Dr. W. remarks that the cases are rare, and that he never met with one. In connection with these suggestions by Dr. West, the fact of hemorrhage having occurred not unfrequently in cases of disease of liver, in adults in this city, becomes interesting.

Dr. Radford (*Edin. Med. and Surg. Journ.*, July, 1832, page 520, vol. xi, *Med. Surg. Journ.*, 1832), has a paper on the subject, in which he makes two divisions: namely, 1st, hemorrhage from the cord from bad tying; disease of funis, such as ossification or varicose state of the vessels; 2d, bleeding from the navel, owing to incomplete closure of the vessels. Bleeding in this case, if from the veins, is usually fatal, and the only resource is, cutting down and tying up the vessels, as other treatment fails.

I have endeavoured to obtain records of twelve cases that have occurred in Boston, seen by Drs. Homans, Jackson, Hayward, and Dyer. Of five, I have gained some imperfect details. Of the others, Dr. Homans, who has collected them, has given me a few items.* I will give a brief analysis of their main facts.

Hereditary predisposition.—In only one case is notice taken of any predisposition. This, however, evidently does not give the exact ratio, the records, in this particular, being poor. In one case, the mother was represented as being of a scrofulous disposition.

Period after birth at which hemorrhage began.—In the eleven cases in which this was noticed, its average was seven and three quarter days before hemorrhage began. The earliest day was the third; the latest was the eighteenth.

Period, after falling of the cords, at which hemorrhage began.—In three of the cases was this mentioned, and the average time was the eighth day. Latest, eleven days; earliest, five days.

How soon did death happen after the commencement of hemorrhage?—This is named in nine cases. In one, it occurred in "a few hours." Of the eight others, three and seven-ninths of a day was the average; seven days being the highest, and one day the lowest.

* These cases have been published *in the Boston Medical and Surgical Journal*, July 11, 1849, *subsequently to the preparation of this paper.* Of the five who bled after the separation of the cord, three died. Of the four, who had hemorrhage from other parts besides the cord, three died. In three, icterus existed; and death occurred in two of them.

I will take this occasion to remark, that my attention has been drawn to the fact that Dr. Marsh has published, in the *New Jersey Medical Reporter*, two cases; and Dr. Cook, in the *New York Annalist*, one case of hemorrhage after the removal of the cord. All three proved fatal, and all were complicated with jaundice.

Character of the hemorrhage from umbilicus.—Mentioned in six cases. In one, it was sudden, and with a sudden return after being stopped, and death took place in a few hours. In all the rest, there was more or less effect from the treatment, the blood being checked in its course—usually, however, only for a short time.

Was there any bleeding from other parts besides the umbilicus?—A tumour on the scalp appeared in one. In two more, some purpuric eruption; and bloody dejections in six.

Jaundice is a very common accompaniment of this hemorrhage, and is decidedly an unfavourable, though not a fatal, symptom.

Finally.—One died comatose; but the usual termination of life was, apparently, from prostration, induced by the hemorrhage.

From these investigations, and other facts not noticed in this paper, we may infer, I think, that there are five classes of hemorrhage from the umbilicus.

1st. A bleeding occurs soon after labour. This is generally owing either to insufficient care in applying the ligature to the cord, or to a contraction of the cord, which, at the time of being tied, is large; and the fluids, subsequently exuding, allow a relaxation of the ligature. This, if noticed early, can be easily restrained by a new string.

2d. I find one case recorded by Dr. Hill (*Lond. Med. Gaz.*, from *Dublin Med. Press*, vol. lii, p. 556), in which great hemorrhage occurred, in consequence of a practitioner having forcibly removed the cord, from fear that erysipelas would ensue, if it were allowed to remain. It is to be hoped that few cases of this kind will ever occur.

3d. There is another, of which we have alluded to one specimen, given in Dr. Jackson's notes of a case treated by Dr. Hayward. The bleeding began on the third day from the removal of the cord, and, notwithstanding every effort, death occurred in twenty-four hours. In this case, there was probably an imperfect closure of the vessels from non-coagulation of the blood.

4th. The largest class of serious bleeding is like those reported by me. In these, the funis drops off, and usually nothing abnormal is observed, or, at most, only a delicate sponginess in the umbilicus. After three or four days, an oozing commences, which either increases with every application, or, perhaps, is slightly checked by astringents, &c.; but it almost always proves fatal; and the patients, before death, become perfectly blanched. In these cases, it is very common to observe an alteration in the functions and structure of the liver; the dejections being non-bilious, and, at the post-mortem examinations, disease of the hepatic structure, or of the ducts, being observed.

5th. Finally, we have the really hereditary hemorrhagic tendency. The blood, in these cases, oozes from the gums, intestines, under the skin, &c. There are few cases on record of this class in new-born children, unless we consider our own cases and the class of hemorrhage, described as our fourth

species, to be such; but there are numerous examples of it among adults,* in whom, however, the navel seems to have healed perfectly, soon after birth.

Prognosis.—This evidently will vary with the cause of the hemorrhage. For example, an insufficient ligature may be made stronger. A case like that of our second class, viz., an accidental tearing away of the cord, would be much more subject to remedies than either of the last three kinds, namely, an insufficient closure of the vessels; a fungus of the navel, connected, as it usually is, with disease of the liver; and finally, the hemorrhagic diathesis. The first two, under judicious treatment, will undoubtedly do well. In the third, if the vessels can be cut down upon and tied up, some hope may be gained of safety. In fungus and the hemorrhagic diathesis, especially when there is any mark of hepatic disease, much less chance of recovery is afforded.

Treatment.—The treatment, of course, must vary with the class. In relation to the *first class*, viz., that in which there is bleeding from the cord, owing to its contraction and the subsequent loosening of the ligature, it may be remarked that this will rarely happen if the practitioner, at the time of labour, takes sufficient precautions. He should always, before leaving the room, examine the cord a second, and, if need be, a third time; and, if it has been large, and seems disposed to contract, so as to allow of any oozing, a new ligature should be applied.

In the *second class*, where injury is produced by the violent removal of the cord, use should be made of caustic; or, still better, of plaster of Paris poured in a liquid state on the part, so that a plug will be formed, on its becoming hard, in all the minutest crevices, and even in the mouths of the bleeding vessel. This should be retained for three or four days, and success will probably be the result.

In the *third class*, it will be difficult to decide whether the bleeding is owing to the open mouths of deep-seated vessels, or to an original hemorrhagic tendency. If, however, there be no hereditary tendency, and if there be no marks of hepatic lesion, we may use styptics of various kinds: tannin, collodion, sulphate of zinc, sulphate of copper, and caustics. The best treatment, however, would undoubtedly be that advised by Dr. Radford, of Dublin, namely, to cut down and tie up the bleeding mouths. In order to do this, we should endeavour to decide from which the hemorrhage proceeds, in order to prevent the necessity of too much cutting.

In the *fourth class*, where hemorrhage from the umbilicus, without evident cause, takes place, which can be only partially restrained by astringents, and in which there is hepatic lesion, I believe that very little hope may be anticipated of affording relief. At times, however, a slight oozing may continue for months, and the patient finally get well. But this is uncommon. In our cases, all astringents and caustic compresses seemed rather to stimulate than

* *Vide* Brit. and For. Med. Review, vol. ix., 247.
" Am. Journal of the Medical Sciences (Phil.) Vol. V., 252, 488; Vol. IX.
" Med. Magazine (Boston), vol. i., 553.

diminish the hemorrhage. Even the plaster of Paris, and ligature, and actual cautery, are of no avail. The oozing, checked for awhile, returns until death. Some have advised internal remedies in these cases, with the idea of correcting the fluidity of the blood. For that purpose, I used sulph. soda, as recommended in the *British and Foreign Medical Review*, ix. 247. If, however, Simon's view is correct, that icteric blood, while it possesses less fibrin, has more salts and albumen, than usual, we should not use sulphate of soda in cases where icterus is found. Transfusion has been suggested; and I regret that it was not tried in our cases: but the older surgeons had no faith in the remedy, and the younger preferred not to use it. To me it seemed the only means left for preserving life.

In the *fifth class*, where there is a natural predisposition to hemorrhage, what can be done? If the same applications may be made to the child as those made to the adult, the actual cautery is undoubtedly the best styptic. The late Dr. Hale, of this city, used to relate to me the case of a man who always carried a nail in his pocket, in order that he might cauterize any part of his body that was bleeding. But our cases prove but little in favour of this method. The cautery did not, in fact, check the hemorrhage one hour. Transfusion I should have less faith in than in the previous case. A question arises, whether the mother should nurse the child. I think not; still, when we bear in mind the fact that, in many cases, the hemorrhagic tendency does not show itself in the mother, but in the grandparents, we can hope but little from a strange nurse.

Art. IV.—*Extracts from the Records of the Boston Society for Medical Improvement.* By Samuel Parkman, M. D., Secretary.

May 28th, 1849. *Fracture of the Face.*—Dr. Cotting had lately picked up in the street a man who had been run over by the wheel of his own cart; blood was being profusely discharged from the nose and mouth. He found a fracture of the lower jaw on one side, and a dislocation on the other; and a separation of the whole face from the base of the skull. The man is now doing well, and the fracture healing without much deformity. Dr. J. M. Warren had seen a similar case in an old lady, who, falling into an open cellar, struck upon the face; the face was driven backwards, and the respiration much obstructed from the compression, and the blood from the lacerated soft parts. The fragments were replaced, and the patient did well.

Death from Laudanum in Three-Quarters of an Hour.—Dr. Coale had a memorandum of a case where death followed the ingestion of the poison after